

Pangolin Lesson Activity Book



“You cannot get through a single day without having an impact on the world around you. What you do makes a difference, and you have to decide what kind of a difference you want to make –
Jane Goodall

INTRODUCTION

Have you heard of Pangolins? Did you know Pangolins are splendid, spectacular creatures and the only mammals with scales on their bodies? Did you also know Pangolins are some of the most trafficked animals in Ghana and the world? Pangolin numbers are rapidly decreasing in Asia and Africa and may silently be heading towards extinction being listed as ‘endangered’ on the IUCN Red List of Threatened Species. Trafficking of these species is one of the biggest challenges facing conservationist today.

World Pangolin Day is celebrated on the third Saturday in February and is an opportunity for people who care about the environment and conservation, to join together in raising awareness about these unique mammals and the threats they face.

This lesson notes are designed to help patrons of schools take the opportunity to educate students on all there is to know about Pangolins and how students can actively participate in learning to protect pangolins.

Objectives

- To teach students and raise awareness of the importance of endangered animals like the pangolin
- To ensure students are equipped with knowledge about pangolins and the threats they face
- To instill children with the concern towards environmental conservation



LESSON PLAN

Read through the lesson plan in order to organize activity sessions. Make use of the vocabulary list at the end of this lesson plan. Any word that is **bolded in red** in the lesson, will be in the vocabulary list.

Thereafter, follow the numbered steps in order to conduct your lesson. Work through this step by step to ensure all parts of this important lesson are covered.

STAGE 1 -Theoretical lesson



OBJECTIVES

Children are introduced to pangolins, why they're important to the ecosystem, understand why they are in danger and what students can do to protect them



Discussion – Introduction to Pangolins

Time – 20 mins

Location – In class/outside

1. In your class talk to them about Pangolins. Be sure to talk about this special lesson for occasions like World Pangolin Day.
This is just a quick discussion to introduce the children to Pangolins – you will go more in depth later in the lesson.
2. After a brief introduction from the information above, show the Video/ Power point or pictures about Pangolins to the students. This will help give a visual insight to what pangolins look like and issues they face.



FUN! Facts about Pangolins



- The word 'pangolin' comes from the Malay word **Penggulung**, which means 'one that rolls up'.
- There are eight different **species** of Pangolins. Four can be found in Asia and four in Sub Saharan Africa
- Pangolin scales are made of keratin, just like our fingernails, and make up 20 per cent of their body weight. Their scales cover the entire body from head to tip of tail — except for their undersides, which are covered with a few **sparse** hairs.
- The mammal can eat up to 20,000 ants and termites a day. That's about 73 million ants and termites a year!
- Pangolins only give to one offspring a year, making them vulnerable to **overexploitation**.
- Baby pangolins travel around with their mothers by riding on the base of their tail.
- Pangolins can close their ears and nostrils using strong muscles. This helps protect them from ants getting into these tricky places.
- They have long, sticky tongues, which are often longer than their body and attached near its pelvis and last pair of ribs. If a pangolin fully extends its tongue, it is longer than the animal's head and body!
- Pangolins don't have teeth, so they can't chew. Instead, they have keratinous spines in their stomach and swallow stones that help them grind up their food.
- Pangolins, also known as scaly **anteaters**, are unique creatures that are covered in hard, plate like scales. They are insectivorous (feeding on insects) and are mainly **nocturnal** (meaning they are active at night).
- You are very lucky if you ever see a pangolin, because they are very secretive, like to be alone, and are nocturnal.
- Pangolins have large, curved claws that they use for digging in ant and termite nests, as well as for pulling bark off trees and logs to find their insect prey.
- When pangolins feel threatened, they curl up into a tight, almost impenetrable ball to protect their tender undersides. If caught, they will thrash about using their tail muscles. Because their scales have very sharp edges, they can slice the skin of a human or predator when they do this.
- Some pangolins find shelter in trees, while others live in underground burrows.



Where is Your Pangolin?

Pangolins of the World

White-bellied pangolin

Giant pangolin

Black-bellied pangolin

Ground pangolin

Chinese pangolin

Philippine pangolin

Sunda pangolin

Indian pangolin

IUCN SSC PANGOLIN SPECIALIST GROUP

Photographic credit:
White-bellied pangolin, Tim Wacher/ZSL; Giant Pangolin, Tanzania Carnivore Program; Black-bellied, Rod Cassidy; Ground pangolin, Darren Fleterser; Chinese pangolin, Sorita Jhawali; Philippine pangolin, Katala Foundation Inc.; Sunda pangolin, Dan Challender; Indian pangolin, Zeeshan Merchant.



Ghana's Pangolins

Three Pangolins species live in Ghana. They can be found in forest areas like the Atwea Forest in Kyebi in the Eastern region and Volta region

1. Giant Ground Pangolin — **'Endangered'**
2. The African White Bellied Tree Pangolin (Three-cusped Pangolin) - 'Endangered'
3. Black Bellied Tree Pangolin — 'Endangered'




- Critically endangered (CR) facing a very high risk of extinction in the wild
- Endangered (EN): likely to become extinct
- Vulnerable (VU): likely to become endangered unless the circumstances threatening its survival improve
- Extinct (EX) when there are no more of a species left



Where can we find Pangolins in Ghana?

Pangolins can be found in forests and grassland within and across Ghana. Some of these places is the Atewa Forest Reserve in Kyebi in the Eastern Region., Ashanti and even Volta region.

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OBJECTIVES
 This will allow students who don't know to be able to learn a new word in their dialect, put a picture to the name.

Activity



Name that pangolin

Let each student tell the class the name of the pangolin in local dialects. To make this exciting let the children take this work home with them for the day before the next discussion. Let the students create their own storybook or poem about pangolins, let it be colorful!



STAGE 2 -Theoretical lesson

Discussion 2 – Usefulness of pangolins to the ecosystem, why they are exploited and their protection status and what students can do to help

Time – 30 mins

Materials – Paper and pens / colored markers

Location – In class/ Under the trees. Children should bring a piece of paper along so that they can take notes during the lesson.

Use the notes below to teach and talk about how Pangolins are important to the **ecosystem**.

(Try to engage students during the lesson. You can do this by asking them for their opinions. Encourage them to try to answer questions you might ask around these notes (for example, you could ask: “Where do you think pangolins live in Ghana?” or “What do you think can be done to help pangolins from becoming **extinct**”)



How are pangolins important in an ecosystem?

Pangolins are soil caretakers

Their large claws allow them to burrow underground for shelter and to dig in ant and termite nests for food. In doing so, the **soil** is mixed and **aerated** much like what happens when we plough our crops. This improves the nutrient quality of the soil.

Pangolins help keep the balance in ecosystems

It is said that a single pangolin consumes as much as **70 million** insects per year—mainly ants and termites. Pangolins certainly help to control their insect **prey's** numbers, contributing to the delicate balance of the ecosystems they inhabit.

Why are pangolins in danger?

In the last decade more than 1,000,000 (One million) pangolins have been killed through a number of human activities. This is a serious issue as this can lead pangolins to join a number of other species that are extinct.

Some of the threats facing pangolins are;

- One of the major dangers to pangolins is the loss of their habitat due to human activities like **deforestation**.
- Human consumption. African species of Pangolin are largely hunted as **bush meat** and medicine but more recently are being poached in order to supply Asian countries with pangolins.
- In **China and Vietnam** (the primary sources of demand for pangolins), the flesh of pangolins is considered a delicacy and some mistakenly believe they will be blessed with health benefits if they eat it.
- Pangolin skin is used as leather in some countries for shoes, bags and belts
- Their blood is widely used in traditional medicines as health tonics.
- According to some traditional medicines in Asia and Africa, pangolins can provide good luck, keep evil spirits at bay, increase blood circulation, cure asthma and prevent cancer, just to name a few. The use of pangolin scales is **illegal** (and there are no proven health benefits to consuming scales—they are made of **keratin**, just like your fingernails!)



Protection Status of Pangolins

Pangolins all over the world are protected. In Ghana, all three species of Pangolin are **wholly** protected all throughout the year. This means that, it is an **offense** against the laws of Ghana to hunt, kill, sell, buy and eat pangolins. If arrested, the pangolin trader and eater will be fined, imprisoned or both.

WORLD PANGOLIN DAY



Things YOU can do to help Pangolins

1. **SHARE** pangolin information from books, social media, T.V etc. with your friends, parents and community
2. **CREATE** awareness by using your art such as making posters or artifacts on pangolins
3. **EDUCATE** by giving a presentation about pangolins at school on days like world pangolin day
4. **SUPPORT** organizations that are working to protect pangolins
5. **ADVOCATE** full enforcement of laws and penalties for smuggling pangolins (and other wildlife) by writing letters to the proper authorities or tagging them on social media
6. **TELL** the police if you see pangolins for sale at markets or on restaurant menus, or if you know of anyone capturing or possessing pangolins.



STAGE 3 -**OBJECTIVES**

Students are going to apply the knowledge learnt in the theoretical part of the lesson, as they create a pangolin out of natural and recyclable materials, and share their learnings with the class or A Rocha's

**ACTIVITY****Create your own pangolin Materials – Natural or Recyclable materials****Location – Under the trees, in a classroom or home**

1. Divide the children into groups
2. In their groups, the children should brainstorm how they're going to make a pangolin out of natural or recyclable materials.
3. They should then go out into the school grounds, home or communities and collect natural or recyclable materials (e.g., cardboards, plastic bottles, sticks etc.) that they can use to make a pangolin. They should **not** break off plants unnecessarily, but rather look for items that have fallen naturally.
4. The most important thing to think about is the pangolin's scales – they should find something that looks like the scales.
5. They should also come up with a short poem or story about pangolins and what they learnt about them. They can also do a dance about pangolins, but the dance must obviously show that it is about pangolins.
6. Once they have made their pangolin, they should stand up as a group to present their model pangolin to the class/school and explain how they used recyclable materials. Those who chose to create a song / dance / poem can also showcase to the rest of the class/school.

Reflections for students after the class

Students should be able to discuss the following

- ✓ One thing they learnt about pangolins that they didn't know before?
- ✓ Why pangolins are in danger?
- ✓ One thing which they as youths could do to help save pangolins?



If possible, print copies of this coloring sheet for the children to color in.

Color in the Pangolin. Place this in the classroom where children can see it and be reminded of this lesson.



VOCABULARY

- **Aerated** – to introduce air into something
- **Anteaters**- a mammal that feeds on ants and termites, with a long snout and sticky tongue
- **Bush meat**- the meat of African wild animals as food.
- **Deforestation**- the action of clearing a wide area of trees.
- **China and Vietnam**-Countries that are found in Asia
- **Ecosystem**– a biological community of interacting organisms and their physical environment.
- **Endangered**- (of a species) seriously at risk of extinction.
- **Extinct**- (of a species, or group of animals or plants) having no living members; no longer in existence.
- **Illegal**- forbidden by law
- **Keratin**-a fibrous protein forming the main structural constituent of hair, feathers, hoofs, claws, horns, etc.
- **Nocturnal**- active at night.
- **Offense**- a breach of a law or rule; an illegal act.
- **Overexploitation** - to overuse to an excessive degree to the extent that the resource risk getting finished
- **Prey**- an animal that is hunted and killed by another for food.
- **Soil**- a black or dark brown material on the upper layer of the earth in which plants grow
- **Sparse**- scattered
- **Species**- a group of similar living organisms
- **Wholly**- entirely or fully.



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